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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/529,493 | 03/29/2005 | Michel Bugaud | 268343US6PCT | 9163 |
| 22850 | 7590 | 03/23/2006 | EXAMINER | |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | SONG, SARAH U | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2874 | |
| DATE MAILED: 03/23/2006 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/529,493

Applicant(s)

BUGAUD, MICHEL

Examiner

Sarah Song

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 9, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) 10-13 and 16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All. b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0605.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The prior art documents submitted by the applicant in the Information Disclosure Statement filed on June 27, 2005 have all been considered and made of record (note the attached copy of form PTO-1449).

Claim Objections

3. Claim 13 is objected to as depending from itself. For purposes of examination, claim 13 will be examined as depending from claim 12.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 9 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Hay et al. (U.S. Patent 6,278,811 cited by Applicant).**
6. Regarding claims 9 and 14, Hay et al. discloses a pressure sensor comprising:
 - an optical wave guide 28;
 - a first reflecting element 33 formed in a portion of the optical wave guide, the portion being submitted to pressure P;

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- means for lateral support 12 of the portion of the optical wave guide, wherein the portion of optical wave guide is submitted to a compression prestress with a small value compared with a measurement range of the sensor;
- a housing 18; and
- a membrane 51 that is subjected to pressure P and closes the housing,
- wherein the sensor acts in compression;
- wherein the portion of the optical wave guide is placed in the housing and comprises first and second ends that are fixed to the membrane and to the housing respectively (in regions 46 and 44, respectively), and
- wherein the means for lateral support comprises means 12 for preventing buckling of the portion of the optical wave guide when compressed (Figure 1; column 6, lines13-39).

Regarding claim 14, the means 12 for preventing buckling of the portion of the optical wave guide comprises single ring that is fixed and integral with the housing and that guides the portion of the optical wave guide over an entire length of the sensor (Figure 1; column 6, lines13-39).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hay et al. as applied to claim 9 above, and further in view of Maron et al. (U.S. Patent 5,892,860).**

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9. Regarding claim 6, Hay et al. does not expressly disclose the means for preventing buckling to comprise rigid washers arranged one after the other in the housing, along the portion of the optical wave guide, the portion of optical wave guide passing through the rigid washers, together with elastic elements that are arranged one after the other in the housing, between the housing and the membrane, alternate with the rigid washers, and that are integral with the rigid washers.

10. Maron et al. discloses a pressure sensor comprising rigid washers arranged one after the other in the housing, along the portion of the optical wave guide, the portion of optical wave guide passing through the rigid washers 59, 64, together with elastic elements 60, 63 that are arranged one after the other in the housing, between the housing and the membrane, alternate with the rigid washers, and that are integral with the rigid washers (Figure 4).

11. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the alternating rigid/elastic structure of Maron et al. in the pressure sensor of Hay et al. for the purpose of providing multi-function sensor (e.g. a pressure sensor and a vibration sensor) as taught by Maron et al (see Abstract).

Allowable Subject Matter

12. Claims 10-13 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter: The rigid/elastic structure of Maron et al. is secured to the fiber. Therefore, the prior art of record does not disclose or reasonably suggest the invention of claim 10 comprising rings

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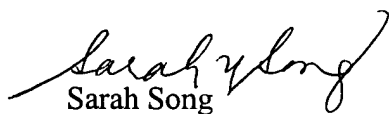
alternately arranged with elastic elements, the portion of optical wave guide passing through the rings, and a portion of optical waveguide being free to slide in the rings. Claims 11-13 would be allowable as depending from claim 10. The prior art of record also does not disclose or reasonably suggest wherein the elastic elements form a single block of elastic material that traps the portion of optical waveguide, as recited in claim 16.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Song whose telephone number is 571-272-2359. The examiner can normally be reached on M-Th 7:30am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sarah Song
Primary Examiner
Group Art Unit 2874